IN THE SPECIFICATION

Please amend the paragraph beginning on page 6, line 9 as follows:

One electronic device factor that affects IC performance is transistor junction temperature T_j. Transistor junction temperature is a function of three factors: junction-to-ambient thermal resistance, power dissipation, and ambient temperature. T_j can be expressed by Equation 1:

(Equation 1) $T_j = ([[\_]]\underline{\theta}_{ja} \times P_d) + T_a$

wherein T_j = transistor junction temperature (in degrees C);

$[[\_]]\underline{\theta}_{ja}$ = the junction-to-ambient thermal resistance (in degrees C / watt);

P_d = power dissipation at T_j (in watts); and

T_a = ambient temperature (in degrees C).

Please amend the paragraph beginning on page 6, line 20 as follows:

The junction-to-ambient thermal resistance $[[\_]]\underline{\theta}_{ja}$ can be represented by Equation 2:

(Equation 2) $[[\_]]\underline{\theta}_{ja} = [[\_]]\underline{\theta}_{jc} + [[\_]]\underline{\theta}_{cs} + [[\_]]\underline{\theta}_{sa}$

wherein $[[\_]]\underline{\theta}_{jc}$ = the junction-to-package case thermal resistance (in degrees C / watt);

$[[\_]]\underline{\theta}_{cs}$ = the case-to-sink thermal resistance (in degrees C / watt); and

$[[\_]]\underline{\theta}_{sa}$ = the sink-to-ambient thermal resistance (in degrees C / watt)[[;]] .

Please amend the paragraphs beginning on page 7, line 1 as follows:

Thermal interface materials 70, as shown in Figure 1, reduce the junction-to-ambient thermal resistance $[[\_]]\underline{\theta}_{ja}$ by reducing the effective case-to-sink thermal resistance $[[\_]]\underline{\theta}_{cs}$. As shown in Equation 1, it follows that reductions in $[[\_]]\underline{\theta}_{a}$ directly affect IC performance by either lowering the transistor junction temperature T_j to increase IC reliability, or allowing the IC to operate faster under existing transistor junction temperatures T_j.

Please amend the paragraph beginning on page 7, line 13 as follows:

The secondary particles 320 in this embodiment are generally spherical, and include large diameter particles 322 and small diameter particles 324. A distribution of secondary particle size in this embodiment ranges from around [[13_m]] <u>13μm</u> to [[51_m]] <u>51μm</u> in diameter. Although in this embodiment, the secondary particle size distribution is as high as about 400%, other embodiments could include wider or narrower size distributions of secondary particles 320.

Please amend the paragraph beginning at page 8, line 10 as follows:

A single carbon fiber 310 as used in the thermal grease 300 is shown in Figure 4. The carbon fiber 310 is generally cylindrical in shape, with a diameter 420 and a length 410. In this embodiment the length 410 is approximately [[100_m]] <u>100μm</u>, while the diameter is approximately 10_m across. The dimensions of the carbon fibers is dictated by viscosity requirements and the desired final thickness of the thermal grease 300 as illustrated by thickness 72 in Figure 1. In this embodiment, the dimensions chosen allow the fibers to be randomly oriented at the applied thickness 72, while at the same time, permitting a viscosity of the thermal grease 300 that is low enough to apply to the thickness 72. In this embodiment, the size distribution of the fibers is relatively narrow at around +/- 10%, however, other size distributions of carbon fibers 310 could be used. The material composition of the carbon fibers 310 is essentially pure carbon. One form of carbon used is the "high-K carbon fiber K13C2U" manufactured by Mitsubishi Chemical, which has a thermal conduction along the fiber direction of about 674 W/m-K. In one embodiment, the carbon fibers 310 are randomly oriented within the matrix, however higher degrees of ordering the fibers 310 could also be used.

Please amend the paragraph beginning at page 9, line 20 as follows:

As can be seen from Figure 5, all of the carbon fiber enhanced thermal greases show significantly less thermal impedance than the current thermal interface material line 500. In addition to exhibiting enhanced thermal conduction, the thermal greases shown in Figure 5 are also of a low enough viscosity to spread very thin. The 10% loaded thermal grease line 510 shows that this thermal grease can be spread as thin as 2 mils thick ([[51_m]] <u>51μm</u>) as indicated

by minimum thickness point 512. The 15% loaded thermal grease line 520 shows that this thermal grease has a lower thermal impedance than the 10% loaded thermal grease or 0% thermal grease (510 and 500 line respectively). The 15% loaded thermal grease also has a low enough viscosity to be spread as thin as 5 mils thick ([[127_m]] 127μm) as indicated by minimum thickness point 522. When the thermal grease is loaded to 20% carbon fibers as indicated by the dashed line 530, the viscosity is increased, as is the minimum spread thickness. As indicated by minimum thickness point 532, the 20% thermal grease can be spread as thin as approximately 35 mils thick ([[889_m]] 889μm).

Applicant respectfully submits that all changes are typographical in nature and that no new matter is added. The text as amended is as it originally appeared in the parent application. Due to word processor conversion issues, the symbols were inadvertently removed in the present continuation application.